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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/729,009	12/08/2003	Naoki Matsuda	0425-1099P	9137
2292 7590 04/06/2007 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			EXAMINER GELLNER, JEFFREY L	
			ART UNIT	PAPER NUMBER
			3643	

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	04/06/2007	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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# Office Action Summary

Application No.

10/729,009

Applicant(s)

MATSUDA ET AL.

Examiner

Jeffrey L. Gellner

Art Unit

3643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 2-5 and 7-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2, 3, 5, 8-11 is/are rejected.
- 7) ☒ Claim(s) 4 and 7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Priority***

Receipt is acknowledged of the certified copy and translation of JP2002-35670 submitted under 35 U.S.C. 119(a)-(d). Additionally, acknowledgement is made of the English translation of provisional application 60/432,659.

### ***Drawings***

The drawings were received on 19 December 2005. These drawings are approved.

### ***Specification***

The substitute specification received 19 December 2005 has been entered.

Upon review of the prior art, the allowability of claims 2, 8, 9, and 11 is withdrawn. A rejection of claim 2 follows. Examiner regrets any inconvenience to Applicants.

### ***Claim Objections***

Claims 2, 5, and 11 are objected to because of the following informalities:

In claim 2, the “gas generating agent molded article” of line 12 should probably be --molded articles of a gas generating agent-- to conform with the language of line 6.

In claim 5, line 3, “has” should be --have--.

In claim 11, line 10, the last phrase of “and the gas generating agent molded article” is unclear in meaning.

Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 3, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taguchi et al. (US 6,485,051 B1) in view of Taylor et al. (US 2003/0145922 A1) in further view of Dahl et al. (US 6,139,055).

As to claim 2, Taguchi et al. disclose a gas generator for an air bag comprising a housing (1 of Fig. 1) with a gas discharge hole (12a of Fig. 1); an ignition means (8 and 9 of Fig. 1) including at least one igniter (in 8 of Fig. 1 from col. 11, lines 23-26) and at least one transfer charge (27B of Fig. 1); and a combustion chamber (3 and 4 of Fig. 1); a first ignition means including a first igniter (8 of Fig. 1), a first transfer charge (27B of Fig. 1 for igniter 8), a second igniter (9 of Fig. 1), and a second transfer charge (27B of Fig. 1 for igniter 9), the igniters activated with a time difference (from col. 12 lines 60-67). Not disclosed is the first transfer charge being a mixture of transfer charge powder and molded articles of a gas generating agent; and, the second transfer charge being only the gas generating agent molded article. Taylor et al.,

Art Unit: 3643

however, disclose a first transfer charge being a mixture of transfer charge powder (“boron” and “potassium nitrate” of para. 0052) and molded articles of a gas generating agent (“guanidine nitrate” of para. 0052); Dahl et al. disclose that first and second charges can be different compositions that are gas generating (from “igniter material . . . in secondary igniter assembly . . . may be comprised of various types of gas generating materials”). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the air bag of Taguchi et al. by using the transfer charge of Taylor et al. so as to prevent the formation of incomplete products of combustion (see Taylor et al. at para. 0022) and to use only a gas generating material in the second transfer charge to prevent “sympathetic” ignition (see Dahl et al. at col. 8 lines 3-11).

As to claim 3, Taguchi et al. as modified by Taylor et al. and Dahl et al. further disclose the transfer charge being boron and niter (Taylor et al. at para. 0052; Dahl et al. at col. 7 lines 31-35).

As to claim 10, the limitations of claim 2 is disclosed as described above. Not disclosed are molded articles of a gas generating agent generating at least 1.2 moles per 100g. It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the air bag of Taguchi et al. as modified by Taylor et al. and Dahl et al. by having molded articles of a gas generating agent generating at least 1.2 moles per 100g depending upon use of the air bag.

Art Unit: 3643

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Taguchi et al. (US 6,485,051 B1) in view of Taylor et al. (US 2003/0145922 A1) and Dahl et al. (US 6,139,055) in further view of Matsuda et al. (US 5,780,767).

As to claim 5, the limitations of claim 2 are disclosed as described above. Not disclosed is the gas generating agent being nitroguanidine, strontium nitrate, and carboxymethyl cellulose sodium salt. Matsuda et al., however, discloses a gas generant material with nitroguanidine, strontium nitrate, and carboxymethyl cellulose sodium salt (col. 4 lines 5-9; col. 3 lines 5-7). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the air bag of Taguchi et al. as modified by Taylor et al. and Dahl et al. by using a gas generating agent of nitroguanidine, strontium nitrate, and carboxymethyl cellulose sodium salt as disclosed by Matsuda et al. that has excellent combustion speed (see Matsuda et al. at abstract).

Claims 8, 9, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taguchi et al. (US 6,485,051 B1) in view of Taylor et al. (US 2003/0145922 A1) in further view of Matsuda et al. (US 5,780,767).

As to claim 8, Taguchi et al. disclose a gas generator for an air bag comprising a housing (1 of Fig. 1) with a gas discharge hole (12a of Fig. 1); an ignition means (8 and 9 of Fig. 1) including at least one igniter (in 8 of Fig. 1 from col. 11, lines 23-26) and at least one transfer charge (27B of Fig. 1); and a combustion chamber (3 and 4 of Fig. 1). Not disclosed is the at least one transfer charge being a mixture of transfer charge powder and molded articles of a gas generating agent, and the molded article of a gas generating agent including 34.4% mass of nitroguanidine, 55.6% mass of strontium nitrate, and 10.0% mass of carboxymethyl cellulose

Art Unit: 3643

sodium salt. Taylor et al., however, disclose a first transfer charge being a mixture of transfer charge powder (“boron” and “potassium nitrate” of para. 0052) and molded articles of a gas generating agent (“guanidine nitrate” of para. 0052); and, Matsuda et al. disclose use of a gas generating agent of 34.4% mass of nitroguanidine (col. 4 lines 5-9), 55.6% mass of strontium nitrate (col. 4 lines 5-9), and 10.0% mass of carboxycellulose sodium salt (col. 3 lines 61-62 and col. 3 lines 5-7). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the air bag of Taguchi et al. by using the transfer charge of Taylor et al. so as to prevent the formation of incomplete products of combustion (see Taylor et al. at para. 0022) and to substitute the gas generating agent of Matsuda et al. so as to have an agent with excellent combustion speed (see Matsuda et al. at abstract).

As to claim 9, Taguchi et al. disclose a gas generator for an air bag comprising a housing (1 of Fig. 1) with a gas discharge hole (12a of Fig. 1); an ignition means (8 and 9 of Fig. 1) including at least one igniter (in 8 of Fig. 1 from col. 11, lines 23-26) and at least one transfer charge (27B of Fig. 1); and a combustion chamber (3 and 4 of Fig. 1). Not disclosed is the at least one transfer charge being a mixture of transfer charge powder and molded articles of a gas generating agent, and the molded article of a gas generating agent including nitroguanidine and strontium nitrate. Taylor et al., however, disclose a first transfer charge being a mixture of transfer charge powder (“boron” and “potassium nitrate” of para. 0052) and molded articles of a gas generating agent (“guanidine nitrate” of para. 0052); and, Matsuda et al. disclose use of a gas generating agent of nitroguanidine and strontium nitrate. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the air bag of Taguchi et al. by using the transfer charge of Taylor et al. so as to prevent the formation of incomplete

Art Unit: 3643

products of combustion (see Taylor et al. at para. 0022) and to substitute the gas generating agent of Matsuda et al. so as to have an agent with excellent combustion speed (see Matsuda et al. at abstract).

As to claim 11, Taguchi et al. disclose a gas generator for an air bag comprising a housing (1 of Fig. 1) with a gas discharge hole (12a of Fig. 1); an ignition means (8 and 9 of Fig. 1) including at least one igniter (in 8 of Fig. 1 from col. 11, lines 23-26) and at least one transfer charge (27B of Fig. 1); and a combustion chamber (3 and 4 of Fig. 1). Not disclosed is the at least one transfer charge being a mixture of transfer charge powder and molded articles of a gas generating agent, and the molded article of a gas generating agent including carboxymethyl cellulose sodium salt. Taylor et al., however, disclose a first transfer charge being a mixture of transfer charge powder (“boron” and “potassium nitrate” of para. 0052) and molded articles of a gas generating agent (“guanidine nitrate” of para. 0052); and, Matsuda et al. disclose use of a gas generating agent with carboxymethyl sodium salt. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the air bag of Taguchi et al. by using the transfer charge of Taylor et al. so as to prevent the formation of incomplete products of combustion (see Taylor et al. at para. 0022) and to add carboxymethyl cellulose sodium salt to the gas generating agent of Matsuda et al. so as to better binding capacity (see Matsuda et al. at col. 3 lines 5-7).



***Allowable Subject Matter***

Claims 4, and 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims; and possibly a terminal disclaimer.

***Response to Arguments***

Any argument by Applicants have been considered but are moot in view of the new ground(s) of rejection.

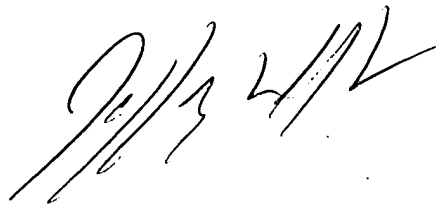
***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey L. Gellner whose telephone number is 571.272.6887. The examiner can normally be reached on Monday-Friday, 8:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Poon can be reached on 571.272.6891. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3643

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'J. Gellner', is written over a horizontal line.

Jeffrey L. Gellner  
Primary Examiner  
Art Unit 3643